melanoma in the right one and five in the left breast. Metastatic nodules next made their appearance in the neck and then in the liver, and in less than two years after her delivery and treatment, she died of malignant disease.

We have eleven patients in this series living and well at the present time, but most of them have been operated upon within the past two years.

These original observations are clinical, but may be summarized as follows:

(1) The benign or premelanotic nevus is definitely stimulated by hormonal changes of puberty and pregnancy.

(2) Pre-pubertal melanomas possessing all the histologic features of malignant melanoma except blood and lymph vessel invasion do not metastasize until puberty (with rare exception).

(3) Certain benign nevi are prone to change to malignant melanoma during pregnancy.

(4) Malignant melanomas grow with great rapidity, metastasize early and widely, are more malignant and have a lower rate of curability during pregnancy.

(5) Dormant, silent, residual melanoma may flare into active recurrence during pregnancy, subsequent to operative removal.

(6) Prophylaxis is removal of all suspicious nevi in women before or at least early during pregnancy.

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Questions of HERMAN CHARACHE,
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1. In your experience with over one thousand cases of malignant melanoma, did you find whether melanuria is of any prognostic value?

Answer: We believe that melanuria is very frequently present in cases of malignant melanoma. There are other conditions also in which this reaction may be demonstrated. We do not believe that it has any important prognostic value.

2. Is the color of pigmented nevi, such as black, brown or blue, of any prognostic significance?

Answer: It has long been our practice to excise all blue-black moles, no matter how benign they appear. Of course many of these moles are Jadassohn neuronevi. These nevi are considered not to undergo malignant degeneration very often, but we have cases in which it has occurred. Otherwise, there is no great significance in the color of the moles, as a certain percentage of malignant melanomas contain no pigmentation at all. These non-pigmented melanomas may, however, produce pigmented metastases in lymph nodes. The color, therefore, has no great prognostic significance.

3. Would you recommend sterilization of young women with malignant melanoma, or interrupt early pregnancy in women with malignant melanomas?

Answer: The sterilization of young women with malignant melanoma seems to us a rather drastic procedure, as we believe that with radical surgery in early stages, we are able to cure these patients. I have cited one case where a woman is living and well for thirteen years and has had two normal pregnancies with deliveries since her malignant melanoma was treated, although it developed during the course of her first pregnancy. This woman had a spontaneous interruption of the first pregnancy, and I personally believe that if the malignant melanoma is diagnosed early enough in pregnancy so that therapeutic abortion can be carried out safely, it should be done.

Benign and Malignant Neoplasia of Melanoblasts Through the Eyes of the Dermatologist.

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Benign neoplasia of melanoblasts (1) is seen in prenatal pigmented nevi, which are either present at birth or appear during the first few years of life. Human beings average 18 to 20 such lesions (Pack). They vary from small macules to large, elevated, nonhairy or hairy plaques. Most nevi are pigmented; a few small elevated lesions are non-pigmented, especially on the face and scalp.

Acquired nevi appear in late childhood or early adult life in the form of flesh-

colored papules which later become brown (Ebert).

Clinical diagnosis of pigmented nevus is made by dermatologists in 80 to 90% of cases. Of 710 lesions diagnosed as nevi (2), microscopic diagnosis was: nevus in 80%, seborrheic keratosis 5%, papillo-epithelioma 3%, carcinoma 2%, verruca vulgaris 1%, and other diagnoses 9%. Reversing the analysis, of 649 lesions diagnosed microscopically as nevi, nevus had been diagnosed clinically in 87%, seborrheic keratosis 2%, carcinoma 2%, fibroma molle, verruca vulgaris, lentigo maligna, papillo-epithelioma, adenoma sebaceum and cyst, 1% each, and other diagnoses 3%.

Microscopically, nevi are divided into type A (nevus cells in masses associated with the epidermis); B (nevus cells in groups or cords in the dermis); and C (elongated nerve type cells in the deeper dermis). Various combinations of the different types occur. In childhood, types A and AB nevi are most common, in adult life types B and BC predominate. Of 741 specimens of nevi, mostly removed from adults, the classification was as follows (2):

Type of Nevus	*Percentage of Cases*	*Number of Cases*
A	2.1	16
A and B	8.7	65
B	16.4	122
B and C	64.3	477
A, B and C	6.6	49
C	1.6	12
Total	99.7	741

Acquired nevi are of the A and AB types. Because of their activity, they may be confused with lentigo maligna, but may be distinguished from the latter by the fact that the nevus cells only penetrate into the dermis and do not work their way to the surface in the epidermis.

Treatment of nevi depends on the variety, the location and the state of growth. Any nevus which is actually growing or is irritated or inflamed, should be excised surgically. All specimens should be biopsied. If melanoma has supervened, treatment should be carried out for melanoma. Quiescent nevi in sites subject to constant friction should be removed prophylactically. Other nevi are treated for cosmetic reasons. Treatment is carried out by fulguration, electric cautery or solid carbon dioxide. A portion of an elevated nevus should be removed for biopsy, after which treatment is directed toward obtaining a smooth scar. In this way unsuspected degeneration of nevi into melanoma can be kept at an irreducible minimum. Large nevi are excised surgically and replaced by grafted skin.

Malignant neoplasia of melanoblasts (1) usually occurs in form of lentigo maligna, a premalignant or, better, early malignant lesion, starting as an asymptomatic brown macule which enlarges irregularly and becomes slightly elevated. After a few months or years a tumor appears, usually in the center of the plaque, often erythematous (non-pigmented melanoma) or pigmented (pigmented melanoma). In the author's series, melanoma arose as lentigo maligna in 77% of cases, and in true nevi containing nevus cells in only 23%. This contrasts with the statement in most reports that melanoma arises in nevi in more than 50% of instances.

Diagnosis of melanoma is more difficult than that of nevus. Of 76 specimens removed from lesions diagnosed clinically as melanoma, microscopic examination revealed melanoma in only 45%, pigmented nevus and blue nevus each 11%, lentigo 8% and seborrheic keratosis and melanotic basal-celled carcinoma, each 5%. Reversing the analysis—of 59 lesions diagnosed melanoma microscopically, only 51% had been correctly diagnosed clinically. Nevus pigmentosus had been diagnosed in 25%, seborrheic keratosis in 9%, carcinoma in 7% and other diagnoses in 9%. Diagnosis of non-pigmented melanoma is made only by biopsy.

Microscopic diagnosis of lentigo maligna (3, 4, 5) is made by the presence of three features: first, neoplastic proliferation of melanoblasts at the epidermo-dermal junction; second, round cell infiltrate, often pronounced, in the superficial dermis; and, third, sometimes absent, casting off of small masses of neoplastic cells through the epidermis. The cells are ordinarily round or oval, although fusiform melanoma cells are sometimes seen. Microscopic diagnosis of frank melanoma is made by the anaplastic nature of the cells forming the tumor, which may be either round or oval or fusiform. Melanoma originating in a nevus shows malignant neoplasia of melanoblasts at the epidermo-dermal junction. Non-pigmented melanoma is diagnosed by the proliferation of cells at the epidermo-dermal junction with the usual lack of cohesion between the cells, as contrasted to epidermal carcinoma.

Treatment of early lentigo maligna consists of local surgical excision. For later lesions, regional lymph node removal should be strongly considered, and, if a frank melanomatous tumor is present, regional lymph node dissection should be done unless contra-indicated by the presence of extensive metastases.

Prognosis of early melanoma is excellent, but failure to biopsy early lesions and carry out adequate treatment has doomed many persons.

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Discussion by H. Z. Lund, Western Reserve University, Cleveland, O.

The contrast of appearance of a pigmented nevus of a child and that of an adult is generally known. We have recently made a systematic study of the appearance of benign pigmented nevi at all ages and find that there are, in most instances, progressive changes which roughly correlate with the age of the patient. The most important variables are junctional proliferation which is present to a moderate to marked degree in about 90 per cent. of children under 10 years of age. The subsequent decades show a marked diminution in this percentage but there is no age at which it abruptly ceases. Slight degrees can be found in many nevi in adult life. Mitotic figures are found rarely but likewise show a higher incidence in the first decade and then a steady drop. Mitotic figures are uncommon in adult life. In later life the nevus cells are more fusiform and associated with fibrils. Fibrils progressively increase with age, as do the structures resembling tactile corpuscles. Thus the nevus cells which early in life resemble epithelium gradually differentiate to tissue resembling neuroid structures. There are exceptions to the above trend which cannot be discussed here.

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Discussion by Eugene F. Traub, New York Medical College.

I am in accord with Dr. Becker that an accurate diagnosis of pigmented nevi is possible only after microscopic examination. Not only are a number of other lesions frequently mistaken for pigmented nevi but the differentiation of one pigmented nevus from the other is often impossible without microscopic examination. Dr. Becker has used a classification for the study of nevi based upon that of Miescher and von Albertini. It is not entirely clear to me just exactly what all may be included in each of his three types. Furthermore, to remember them as types "A," "B" and "C," is rather meaningless unless fully explained by the accompanying text or a specially appended name. But it would seem that each of his types may be a hodge-podge of several varieties of nevi, which is never good. For example, type "A" is exemplified by lesions of an intra-epithelial growth while type "B" includes the "common mole" or intra-dermal nevus of my classification as well as the blue nevus and one would have to specify which of these, or any mixed types, was meant. Dr. Becker admits that depending on where and how the sections are cut, one might find the lesion fitting into type "A," "B" or even "C." This would not occur in a classification like mine, except in the case of a mixed nevus as, in most instances, there would be no difficulty in recognizing at once if its exact type is intra-epidermal, intra-dermal, junction or blue nevus.

I do not agree with some of the methods of the treatment suggested by Dr. Becker. He suggests that large macular pigmented nevi could be destroyed with solid carbon dioxide, electrocoagulation or by fulguration. I believe some of these procedures are satisfactory for some of the rather small lesions but where larger pigmented nevi are involved, I believe the hair line scar of a surgical excision gives a better cosmetic result than can be accomplished by making a scar of the entire area. This is particularly true with those nevi complicated with hair that requires extensive electrolysis after the pigment is first destroyed with either solid carbon dioxide, electrocoagulation or fulguration. In these cases, it is much simpler to excise the lesion at one sitting, unless it is so large that closure is utterly impossible and even then sometimes skin grafting is preferable to many repeated treatements by electrocoagulation, electrolysis, etc. Furthermore, as Dr. Becker pointed out, diagnostic errors can only be prevented or corrected on study of the tissues and this can best be done only by excising and examining the entire lesion.

The Problem of Acanthosis Nigricans.

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Acanthosis nigricans is a benign dermatosis showing hyperpigmentation, mostly in the basal cell layer, as well as other characteristic epidermal changes. Warts and pigmented spots or moles may accompany these lesions. About 450 cases of the disease have been reported. The dermatosis is regionally and symmetrically distributed, the axillas being the most commonly involved area. Melanomas do not develop from the lesions. Acanthosis nigricans occurs in man and dog and is found in both sexes. Its significance lies in its association with internal cancer. This combination is seen in 50% of cases of acanthosis nigricans. The type of acanthosis nigricans associated with internal